Journal of
Cardiology & Cardiovascular
Surgery

Original Article

DOI: 10.51271/JCCVS-0006

The effect of long holidays on emergency department visits and cardiac emergencies

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Cite this article: Polat E, Demir MC, Kılıçaslan R. The effect of long holidays on emergency department visits and cardiac emergencies. *J Cardiol Cardiovasc Surg.* 2023;1(2):19-24.

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Received: 19/06/2023 ◆ **Accepted**: 27/06/2023 ◆ **Published**: 28/06/2023

ABSTRACT

Aims: Patients who visit the emergency department (ED) on holidays have delays in diagnosis and treatment due to a lack of personnel and equipment, and these holiday periods may result in increased morbidity and mortality. In this study, we aimed to investigate the impact of a nine-day holiday on ED admissions and admissions due to cardiac complaints in our country, Turkey.

Methods: This was a retrospective study. Patients were analyzed in 4 periods: Pre-Eid-El-Fitr, Eid-El-Fitr, pre-Eid al-Adha, and Eid al-Adha. Waiting times in the ED, the left without being seen (LWBS), consultations, admission diagnoses of cardiac patients, referral status of cardiac patients, and hospitalization were examined.

Results: The most frequent visits to the ED were on Eid al-Adha (n=6581, 40.1 %). The waiting time before the ED examination increased with the crowd, and the longest waiting time was observed during Eid al-Adha (38.09 ±51.74 min, p<0.001). LWBS rate was the highest during the Eid al-Adha (15.4%). It was observed that cardiac emergencies had shorter waiting times. Among the cardiac emergency patients, all NSTEMI patients could not be referred from the ED during the Eid al-Adha period due to the fullness of the angiography centers, and the patients were transferred to the intensive care unit when the beds became available.

Conclusion: Due to the crowded EDs during extended holiday periods, the triage system gains importance for the early detection and treatment of cardiac patients. A regular patient flow chart should be established on a provincial basis to avoid delays in the treatment process of patients needing angiography.

Keywords: LWBS, emergency department, cardiac emergency, NSTEMI

INTRODUCTION

Studies on patients who visit the emergency department (ED) on weekdays, weekends, and holidays remain popular.[1-4] Undeniably, there are negative effects on the quality of patient care when admitted to health institutions during non-working hours or extended holidays. In a nationwide cohort study on stroke patients, the holiday season effect was observed, showing that mortality was higher during the holiday period.[5]

To give an example of another disease, a study conducted with patients who visited with upper gastrointestinal bleeding during the holiday period observed that patients admitted on holidays had a lower rate of early endoscopy.[6]

If we look at the events from a cardiology view, one of the branches with which the ED communicates closely, as a result of a meta-analysis conducted in acute myocardial infarction (MI) patients, it was observed that the short and long-term mortality of patients who visited during non-working hours was higher than on weekdays.[7] In a study of 22,727 heart failure admissions, it was observed that there were more heart failure-related hospitalizations on Christmas and Independence Day.[8] In another study, it was observed that out-of-hospital cardiac arrest events were more frequent during traditional holidays, and mortality was higher compared to weekdays.[9]

When we examine the data in the literature, it is observed that there are data on delayed access to investigations, prolonged access to treatments, and increased morbidity and mortality in out-of-hour admissions. In this study, we aimed to reveal the effect of long holidays on ED visits and admissions due to cardiac complaints in our country.

METHODS

Study Design and Settings

Ethical approval of the study was obtained from Muğla Sıtkı Koçman University Health Sciences Ethics Committee on 25.06.2021 with decision number 145. The study was designed retrospectively. The period between 08.05.2021 at 00:00 and 16.05.2021 at 23:59 for the Eid al-

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Fitr holiday, which was officially determined as a 9-day holiday by the Republic of Turkey, and the period between 17.07.2021 at 00:00 and 25.7.2021 at 23:59 for the Eid al-Adha holiday were accepted. As a comparison group, the period between 24.04.2021 at 00:00 and 02.05.2021 at 23:59 for the Eid al-Fitr period and the period between 03.07.2021 at 00:00 and 11.07.2021 at 23:59 for the Eid al-Adha period were taken as the pre-Eid period.

The hospital where the study was conducted is the only state hospital in one of the favorite touristic destinations and is a secondary-level hospital. A total of 3 doctors work in the ED daily. Emergency services are provided by two departments as emergency surgery and emergency internal medicine.

Since there is no angiography unit in the hospital where the study was conducted, patients needing angiography are referred from the ED or clinic where they are hospitalized.

The study period was during the pandemic, and there is a separate outpatient clinic for patients with COVID-19 symptoms, and these patients receive treatment without entering the ED; patients who applied to the coronavirus infectious disease 2019 (COVID-19) pandemic outpatient clinic were not included in this study.

In addition, in April and May 2021, when the study data were collected, there was a curfew across the country except for emergencies.

Selection of the Participants

All patients admitted to emergency surgery and emergency internal medicine departments were included in the study. Only one patient group was not included in the study; patients admitted to the COVID-19 pandemic outpatient clinic.

Measurements and Outcomes

The demographic characteristics of the patients who participated in the study, hours of admission to the ED, days of admission to the ED, whether the patients were examined, waiting times for admission to the examination, whether consultation was requested from the patients, if the consultation was requested, from which department it was requested, hospitalization of the patients from the ED, hospitalization of the patients to the intensive care unit, and referral status of the patients from the ED were examined.

In the cardiology department, cardiology consultation diagnoses, cardiological patients' examination admission times, hospitalization diagnoses of cardiology patients, referral status from ED and diagnoses of patients who were referred, referral status of patients after hospitalization, and diagnoses of patients who were referred were evaluated. These data were compared before Eid al-Fitr, during Eid al-Fitr, before Eid al-Adha, and during Eid al-Adha.

Statistical Analysis

Statistical Package for the Social Sciences version 25.0 software program (SPSS, IBM, Corp.; Armonk, NY, USA) was used for data analysis in this study. Descriptive data on the sociodemographic information of the patients are given as n (%) or Mean ± SD tables. The Chi-Square test was used to compare the groups. ANOVA test was used in group analysis, and the LSD test was used in post-hoc analysis. $P < 0.05$ was considered statistically significant.

RESULTS

A total of 16416 patients were included in the study. 53.9% (n=8844) of the patients were male, and 46.1% (n=7572) were female. Considering the distribution of patients, it was observed that 40.1% (n=6581) of the patients were on vacation during the Eid al-Adha period. It was observed that 68.7% (n=11273) of the patients came to the emergency internal medicine department. It was observed that 8.9% (n=1464) of all patients did not want to wait and left without being seen (LWBS) examined. The mean waiting time for examination was 22.39±37.57 minutes (**Table 1**).

Table 1. Distribution of sociodemographic and clinical information

	N	%
Gender		
Male	8844	53.9
Female	7572	46.1
Period		
Pre-Eid-El-Fitr	2281	13.9
Eid-El-Fitr	2815	17.1
Pre-Eid-Al-Adha	4739	28.9
Eid-Al-Adha	6581	40.1
Emergency Group		
Surgery	5143	31.3
Internal	11273	68.7
Admission time		
00:00-03:59	1573	9.6
04:00-07:59	757	4.6
08:00-11:59	3420	20.8
12:00-15:59	3581	21.8
16:00-19:59	3340	20.3
20:00-23:59	3745	22.8
Examination Status		
No	1464	8.9
Yes	14952	91.1
	Mean±SD	
Age, year	35.63±20.81	
The day of the holiday in the ranking	5.02±2.55	
Waiting time for acceptance (minute)	22.39±37.57	

Table 2 shows the sociodemographic and clinical information of the patients who visited the ED in all four periods. It was observed that the number of consultation requests was higher in the period when the number of patients was low (before Eid al-Fitr: 9.9 %), while the number of consultation requests was lower in the period when the number of patients was high (Eid al-Adha: 4.6 %) (**Table 2**).

There was a statistically significant difference between the periods in waiting times for admission to the examination ($p<0.001$). Waiting times for admission to the examination were higher during the Eid al-Adha period than during other periods. Significant differences were found between the pre-Eid al-Fitr period and Eid al-Fitr ($p=0.004$), pre-Eid al-Adha ($p<0.001$) and Eid al-Adha ($p<0.001$) periods, between the Eid al-Fitr period and pre-Eid al-Adha ($p<0.001$) and Eid al-Adha ($p<0.001$) periods, and between pre-Eid al-Adha and Eid al-Adha periods ($p<0.001$). A statistically significant difference was also found between the periods and the status of admission to examination ($p<0.001$) and hospitalization ($p<0.001$) (**Table 3**).

Table 2. Distribution of sociodemographic and clinical information according to periods

Demographic variables		Pre-Eid-El-Fitr		Eid-El-Fitr		Pre-Eid-Al-Adha		Eid-Al-Adha	
		N	%	N	%	N	%	N	%
Age(mean)		40,97		39,47		34,17		33,13	
Waiting time for acceptance (minute, mean)		6,95		9,85		18,12		38,09	
Gender	Male	1261	55,3	1537	54,6	2606	55,0	3440	52,3
	Female	1020	44,7	1277	45,4	2132	45,0	3140	47,7
Emergency Group	Surgery	758	33,2	846	30,1	1674	35,3	1865	28,3
	Internal	1523	66,8	1969	69,9	3065	64,7	4716	71,7
Admission time	00:00-03:59	173	7,6	189	6,7	552	11,6	659	10,0
	04:00-07:59	110	4,8	147	5,2	210	4,4	290	4,4
	08:00-11:59	449	19,7	683	24,3	861	18,2	1427	21,7
	12:00-15:59	583	25,6	749	26,6	876	18,5	1373	20,9
	16:00-19:59	502	22,0	496	17,6	1016	21,4	1326	20,1
	20:00-23:59	464	20,3	551	19,6	1224	25,8	1506	22,9
Examination Status	No	68	3,0	78	2,8	307	6,5	1011	15,4
	Yes	2213	97,0	2737	97,2	4432	93,5	5570	84,6
Consultation requested status	No	1993	90,1	2516	91,9	4176	94,2	5313	95,4
	Yes	220	9,9	221	8,1	256	5,8	257	4,6
Internal medicine	No	2183	98,6	2710	99,0	4382	98,9	5544	99,5
	Yes	30	1,4	27	1,0	50	1,1	26	0,5
Chest diseases	No	2213	100,0	2737	100,0	4428	99,9	5570	100
	Yes	0	0,0	0	0,0	4	0,1	0	0,0
Infectious diseases	No	2182	98,6	2725	99,6	4416	99,6	5542	99,5
	Yes	31	1,4	12	,4	16	,4	28	0,5
Cardiology	No	2190	99,0	2708	98,9	4407	99,4	5549	99,6
	Yes	23	1,0	29	1,1	25	,6	21	0,4
Pediatrics	No	2201	99,5	2727	99,6	4423	99,8	5556	99,7
	Yes	12	0,5	10	0,4	9	0,2	14	0,3
Neurology	No	2195	99,2	2726	99,6	4409	99,5	5538	99,4
	Yes	18	0,8	11	0,4	23	0,5	32	0,6
Neurosurgery	No	2208	99,8	2729	99,7	4415	99,6	5556	99,7
	Yes	5	0,2	8	0,3	17	0,4	14	0,3
General Surgery	No	2201	99,5	2721	99,4	4417	99,7	5548	99,6
	Yes	12	0,5	16	0,6	15	0,3	22	0,4
Pediatric surgery	No	2208	99,8	2736	99,9	4431	99,9	5570	100
	Yes	5	0,2	1	0,1	1	0,1	0	0,0
Orthopedics	No	2174	98,2	2707	98,9	4392	99,1	5528	99,2
	Yes	39	1,8	30	1,1	40	0,9	42	0,8
Obstetrics and Gynecology	No	2178	98,4	2666	97,4	4384	98,9	5507	98,9
	Yes	35	1,6	71	2,6	48	1,1	63	1,1
Eye diseases	No	2208	99,8	2733	99,9	4419	99,7	5566	99,9
	Yes	5	0,2	4	0,1	13	0,3	4	0,1
Urology	No	2208	99,8	2735	99,9	4429	99,9	5569	99,9
	Yes	5	0,2	2	0,1	3	0,1	1	0,1
Oncology	No	2209	99,8	2734	99,9	4430	99,9	5564	99,9
	Yes	4	0,2	3	0,1	2	0,1	6	0,1
Cardiovascular surgery	No	2211	99,9	2737	100,0	4429	99,9	5570	100
	Yes	2	0,1	0	0,0	3	,1	0	0,0
Psychiatry	No	2212	99,9	2737	100,0	4431	99,9	5570	100
	Yes	1	0,1	0	0,0	1	0,1	0	0,0
Ear, nose, and throat department	No	2211	99,9	2735	99,9	4428	99,9	5567	99,9
	Yes	2	0,1	2	0,1	4	0,1	3	0,1
Thoracic surgery	No	2213	100,0	2737	100,0	4431	99,9	5570	100
	Yes	0	0,0	0	0,0	1	,1	0	0,0
Anesthesia	No	2213	100,0	2736	99,9	4432	100	5570	100
	Yes	0	0,0	1	0,1	0	0,0	0	0,0
Hospitalization status	No	2099	94,8	2631	96,1	4315	97,4	5413	97,2
	Yes	114	5,2	106	3,9	117	2,6	157	2,8
Inpatient clinic	,00	2099	94,8	2631	96,1	4315	97,4	5413	97,2
	Internal medicine	15	,7	17	,6	33	,7	20	,4
	Infectious diseases	1	,0	1	,0	2	,0	4	,1
	Cardiology	7	,3	8	,3	5	,1	9	,2
	Pediatrics	4	,2	4	,1	6	,1	8	,1
	Neurology	8	,4	6	,2	8	,2	17	,3
	Neurosurgery	1	,0	4	,1	6	,1	9	,2
	General Surgery	7	,3	10	,4	9	,2	13	,2
	Pediatric surgery	1	,0	0	,0	0	,0	0	,0
	Orthopedics	20	,9	21	,8	16	,4	21	,4
	Obstetrics and Gynecology	18	,8	22	,8	11	,2	24	,4
	Urology	2	,1	0	,0	0	,0	1	,0
	Pandemic	27	1,2	10	,4	15	,3	23	,4
	Oncology	3	,1	2	,1	3	,1	5	,1
	Anesthesia	0	,0	1	,0	0	,0	0	,0
	Chest diseases	0	,0	0	,0	1	,0	0	,0
	Eye diseases	0	,0	0	,0	1	,0	0	,0
	Thoracic surgery	0	,0	0	,0	1	,0	2	,0
	Ear, nose, and throat department	0	,0	0	,0	0	,0	1	,0
Intensive care unit hospitalization	No	2204	99,6	2728	99,7	4421	99,8	5551	99,7
	Yes	9	,4	9	,3	11	,2	19	,3
Referral from the emergency department	No	2197	99,3	2714	99,2	4415	99,6	5555	99,7
	Yes	16	,7	23	,8	17	,4	15	,3
Cardiology diagnosis	,00	2197	99,3	2724	99,5	4418	99,7	5558	99,8
	STEMI	4	,2	2	,1	5	,1	3	,1
	NSTEMI	4	,2	2	,1	4	,1	4	,1
	UA	2	,1	3	,1	1	,0	0	,0
	HF	5	,2	6	,2	1	,0	3	,1
	AF	1	,0	0	,0	1	,0	2	,0
	HT	0	,0	0	,0	1	,0	0	,0
	Coagulation disorder	0	,0	0	,0	1	,0	0	,0
Need for angiography	No	2204	99,6	2729	99,7	4422	99,8	5563	99,9
	Yes	9	0,4	8	0,3	10	0,2	7	0,1
Referral status during hospitalization	No	2210	99,9	2733	99,9	4431	99,9	5565	99,9
	Yes	3	0,1	4	0,1	1	0,1	5	0,1

STEMI: ST-elevation myocardial infarction, NSTEMI: Non-ST-elevation myocardial infarction, UA: Unstable angina, HF: Heart Failure, AF: Atrial fibrillation, HT: Hypertension.

Table 3: Comparison of various parameters by periods

Parameters	Period				p	Post-hoc
	[1]Pre-Eid-El-Fitr	[2]Eid-El-Fitr	[3]Pre-Eid-Al-Adha	[4]Eid-Al-Adha		
Waiting time for acceptance (minute), Mean±SD	6,95±9,40	9,85±19,99	18,12±23,72	38,09±51,75	<0.001	1-2,3,4 2-3,4 3-4
Examination Status, n (%)						
No	68 (4,6)	78 (5,3)	307 (21,0)	1011 (69,1)	<0.001	1-3,4 2-3,4 3-4
Yes	2213 (14,8)	2737 (18,3)	4432 (29,6)	5570 (37,3)		
Hospitalization, n (%)						
No	2099 (14,5)	2631 (18,2)	4315 (29,8)	5413 (37,4)	<0.001	1-2,3,4 2-3,4
Yes	114 (23,1)	106 (21,5)	117 (23,7)	157 (31,8)		
Hospitalization in the intensive care unit, n (%)						
No	2204 (14,8)	2728 (18,3)	4421 (29,7)	5551 (37,2)	0.725	-
Yes	9 (18,8)	9 (18,8)	11 (22,9)	19 (39,6)		

Mean±SD: ANOVA test, Post-Hoc: LSD test, n (%): Chi-Square test, p<0.05 statistically significant.

Waiting times for admission to the examination showed a statistically significant difference between the patients who were asked for consultation and those who were not (p<0.001). Waiting times for admission to the examination were higher in unordered patients than in patients in whom consultation was requested (**Table 4**).

Table 4: Comparison of consultation request status and waiting time for admission

	Consultation		p
	No N=13998	Yes N=954	
Waiting time for acceptance (minute),	23,29±38,25	9,21±21,82	<0.001

Independent t-test, p<0.05 statistically significant.

From the cardiology side, it was observed that the waiting time of patients who requested cardiology consultation was 3.95±4.17 minutes in the pre- Eid al-Fitr period and 17.09±39.22 minutes in the Eid al-Adha period (**Table 5**).

When we look at the patients hospitalized in the cardiology clinic according to the periods, it is observed that the highest number of hospitalizations was during Eid al-Adha (9, 31.1%). When the intensive care hospitalizations of the patients in the periods are analyzed, it is observed that the intensive care hospitalization was higher during the Eid al-Adha period (50%). The cardiology department hospitalized 29 patients, and 8 of them were admitted to the intensive care unit. It was observed that the diagnosis of non-ST-elevation myocardial infarction (NSTEMI) was high among the hospitalization diagnoses during the Eid al-Adha period (44.4%, 4)(**Table 6**).

Table 5: Distribution of various parameters according to periods in patients in whom cardiology consultation was requested (n=98).

Parameters	Period			
	Pre-Eid-El-Fitr N=23	Eid-El-Fitr N=29	Pre-Eid-Al-Adha N=25	Eid-Al-Adha N=21
Waiting time for acceptance (minute), Mean±SD	3,95±4,17	8,03±8,27	5,84±10,94	17,09±39,22
Referral from the emergency department, n (%)				
No	15 (65,2)	23 (79,3)	26 (64,0)	18 (85,7)
Yes	8 (34,8)	6 (20,7)	9 (36,09	3 (14,3)
Referral status during hospitalization, n (%)				
No	21 (91,3)	26 (89,7)	24 (96,0)	17 (81,0)
Yes	2 (8,7)	3 (10,3)	1 (4,0)	4 (19,0)
Cardiology diagnosis n (%)				
No	7 (30,4)	16 (55,2)	11 (44,0)	9 (42,9)
STEMI	4 (17,4)	2 (6,9)	5 (20,0)	3 (14,3)
NSTEMI	4 (17,4)	2 (6,9)	4 (16,0)	4 (19,0)
UA	2 (8,7)	3 (10,3)	1 (4,0)	0 (0,0)
HF	5 (21,7)	6 (20,7)	1 (4,0)	3 (14,3)
AF	1 84,3)	0 (0,0)	1 (4,0)	2 (9,5)
HT	0 (0,0)	0 (0,0)	1 (4,0)	0 (0,0)
Coagulation disorder	0 (0,0)	0 (0,0)	1 (4,0)	0 (0,0)

STEMI: ST-elevation myocardial infarction, NSTEMI: Non-ST-elevation myocardial infarction, UA: Unstable angina, HF: Heart Failure, AF: Atrial fibrillation, HT: Hypertension.

Table 6: Analysis of patients hospitalized in the cardiology clinic according to periods (n=29)

Parametreler	Period			
	Pre-Eid-El-Fitr	Eid-El-Fitr	Pre-Eid-Al-Adha	Eid-Al-Adha
Admitted to the cardiology clinic, n (%)	7 (24,2)	8 (27,6)	5 (17,1)	9 (31,1)
Inpatient in the intensive care unit in the name of cardiology, n (%)	1 (12,5)	1 (12,5)	2 (25,0)	4 (50,0)
Diagnoses of patients admitted to the cardiology department, n (%)				
STEMI	0 (0,0)	0 (0,0)	0 (0,0)	0 (0,0)
NSTEMI	0 (0,0)	0 (0,0)	1 (20,0)	4 (44,5)
UA	2 (28,58)	2 (25,0)	0 (0,0)	0 (0,0)
HF	5 (71,42)	6 (75,0)	1 (20,0)	3 (33,3)
AF	0 (0,0)	0 (0,0)	1 (20,0)	2 (22,2)
HT	0 (0,0)	0 (0,0)	1 (20,0)	0 (0,0)
Coagulation disorder	0 (0,0)	0 (0,0)	1 (20,0)	0 (0,0)

STEMI: ST-elevation myocardial infarction, NSTEMI: Non-ST-elevation myocardial infarction, UA: Unstable angina, HF: Heart Failure, AF: Atrial fibrillation, HT: Hypertension.

It was observed that the most common diagnosis of patients for whom cardiology consultation was requested and who were referred from the ED was ST-elevation myocardial infarction (STEMI) (Pre- Eid-El-Fitr: 50%, Eid-El-Fitr: 33.3%, pre-Eid-El-Adha: 55.6%, Eid-El-Adha 100%)(**Table 7**). The most common reason for referral after hospitalization was unstable angina (UA) (pre-Eid-El-Fitr: 100%, Eid-el-Fitr: 66.7%) before and during Eid al-Fitr and NSTEMI (pre-Eid-al-Adha: 100%, Eid-El-Adha: 100%) before and during Eid al-Adha (**Table 7**).

Table 7: Distribution of cardiology diagnoses according to the periods of referral from emergency and during hospitalization in patients for whom cardiology consultation was requested

Parameter	Period			
	Pre-Eid-El-Fitr	Eid-El-Fitr	Pre-Eid-Al-Adha	Eid-Al-Adha
Cardiology diagnoses of patients referred from the emergency department, n (%)(n=26)				
STEMI	4 (50,0)	2 (33,3)	5 (55,6)	3 (100,0)
NSTEMI	4 (50,0)	2 (33,3)	3 (33,3)	0 (0,0)
UA	0 (0,0)	1 (16,7)	1 (11,1)	0 (0,0)
HF	0 (0,0)	1 (16,7)	0 (0,0)	0 (0,0)
AF	0 (0,0)	0 (0,0)	0 (0,0)	0 (0,0)
HT	0 (0,0)	0 (0,0)	0 (0,0)	0 (0,0)
Coagulation disorder	0 (0,0)	0 (0,0)	0 (0,0)	0 (0,0)
Cardiology diagnoses of patients referred during hospitalization, n (%) (n=10)				
STEMI	0 (0,0)	0 (0,0)	0 (0,0)	0 (0,0)
NSTEMI	0 (0,0)	0 (0,0)	1 (100,0)	4 (100,0)
UA	2 (100,0)	2 (66,7)	0 (0,0)	0 (0,0)
HF	0 (0,0)	1 (33,3)	0 (0,0)	0 (0,0)
AF	0 (0,0)	0 (0,0)	0 (0,0)	0 (0,0)
HT	0 (0,0)	0 (0,0)	0 (0,0)	0 (0,0)
Coagulation disorder	0 (0,0)	0 (0,0)	0 (0,0)	0 (0,0)

STEMI: ST-elevation myocardial infarction, NSTEMI: Non-ST-elevation myocardial infarction, UA: Unstable angina, HF: Heart Failure, AF: Atrial fibrillation, HT: Hypertension.

DISCUSSION

Our study observed that the highest number of patients visited during the Eid al-Adha period. It was found that the waiting time for examination was higher during the Eid al-Adha period, when the number of patients was higher, and the situation of LWBS was higher. It was observed that consultation was requested less during the Eid al-Adha period when the number of patients was high, and more consultation was requested during the Eid al-Fitr period, when the number of patients was low. It was observed that the waiting time for examination was shorter for patients who needed consultation.

Notably, the rate of referral of NSTEMI patients from the ED decreased during the period of high cardiac patient density, and they were referred after the bed became available in inpatient angiography centers.

One of the most striking findings of our study is the LWBS rate, which is one of the indicators of ED quality. The LWBS rate is not a constant value but varies between days during the week and hours during the day.[10] A study of patients leaving the hospital in Canada observed that the appropriate, acceptable waiting time by patients was 1-2 hours.[11] In our study, it was observed that during the Eid al-Adha period, when the number of patients was high, the waiting times of the patients for examination were shorter than the waiting times recommended in the literature but longer than the other periods we compared and 15.4% of the patients left without being examined. In our hospital, where patients are cared for according to the triage system in the ED, the fact that LWBS patients may be since they do not consider themselves as patients and give up. In addition, when the patients with long waiting times were examined, it was observed that some patients who were admitted to re-prescribed their chronic medications.

When we examine the patients who need consultation, we see that patients who need consultation wait less time to be admitted to the examination. these data are consistent with a study conducted in our country by Ataman et al.[12] This shows that our triage methods applied in our country are effective and that relatively severe patients who may be complicated and require specialization are kept on time.

During the Eid al-Adha period, it is generally observed that untrained people have more extremity injuries due to animal slaughter.[13] In our study, we expected that the number of admissions to emergency surgery would be higher during the sacrifice feast period. Still, when we analyzed the results, we observed no significant difference. One of the reasons for this may be that the study was conducted in a region with a high socioeconomic and educational level and experienced people performed animal slaughter.

When we examined the patients from the cardiac point of view, it was observed that there was no significant difference between the consultation requests between the periods. It was observed that the waiting times of patients for whom cardiology consultation was requested were shorter than others in each period. This may be because patients with cardiac complaints usually arrive by ambulance and enter without waiting, and the triage method is used.

In our center, which is not an angiography center, it is observed that all STEMI patients are referred from the ED in every period. During the Eid al-Adha period, when the patient population was high, it was observed that NSTEMI patients were admitted to the general intensive care unit in the hospital due to the lack of available beds in the centers where angiography was performed and followed up for up to 48 hours and referred when a bed became available. ESC guidelines recommend immediate invasive (<2 h) if NST-ACS patients are in the very high-risk group, early invasive (<24 h) in the high-risk group, and selective invasive approach in low-risk patients.[14] Due to the overcrowding of angiography centers in our province during the Eid al-Adha period, it is observed that there is a prolongation in our waiting times, according to the literature. This problem can be solved by increasing the number of angiography centers in our province or beds in angiography centers.

It is observed that one of the patients consulted to the cardiovascular surgery department was consulted for aortic dissection, and the remaining patients were consulted for dialysis catheterization. This may be because surgical operations are not performed in our hospital.

Our study has several limitations. These limitations include the duration of the patient's stay in the ED, not knowing whether the patients were admitted to the ED directly or by ambulance, not knowing the mortality status of the patients in the follow-up, and not knowing the time of angiography in the referral center.

CONCLUSION

The number of patients visiting the ED increases during extended holidays. Although the high rate of LWBS during the Eid al-Adha period draws attention, the fact that serious diseases wait less for examination shows that the triage system applied is beneficial. To reduce the LWBS rate, new assessment methods can be developed to reduce the number of patients.

From a cardiac point of view, it was observed that patients had shorter waiting times despite crowded ED. It is observed that there is a delay in the treatment process of NSTEMI patients due to the fullness of angiography centers during the Eid al-Adha period. In this regard, studies can be conducted to increase the bed capacity of angiography units and the number of angiography centers in the city.

ETHICAL DECLARATIONS

Ethics Committee Approval: The study was approved by the Muğla Sıtkı Koçman University Health Sciences Ethics Committee (Date: 25.06.2021, Decision No:145).

Informed Consent: Because the study was designed retrospectively, no written informed consent form was obtained from patients.

Referee Evaluation Process: Externally peer-reviewed.

Conflict of Interest Statement: The authors have no conflicts of interest to declare.

Financial Disclosure: The authors declared that this study has received no financial support.

Author Contributions: All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

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